

Serial No. 10/616,319
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67. (New) An ultrasound breast imaging assembly comprising:

first and second compression plates that are angled with respect to one another;

a breast compression area defined between said first and second compression plates;

at least one pivot assembly allowing relative motion between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates;

an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and first and second compression plates to said upright member, wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, said ultrasound probe being configured to translate over said one of said first and second compression plates.

68. (New) A breast imaging and display system comprising:

a central processing unit (CPU);

an imaging workstation in electrical communication with said CPU; and

an ultrasound breast imaging assembly operatively connected to, and in electrical communication with, said CPU; said ultrasound breast imaging assembly comprising:

an upper compression plate;

a lower compression plate, wherein the planes of said upper and lower compression plates are angled with respect to one another;

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a breast compression area defined between said upper and lower compression plates;

at least one pivot assembly allowing relative motion between said upper and lower compression plates while said planes of said upper and lower compression plates remain angled with respect to one another, said at least one pivot assembly being operatively connected to each of said upper and lower compression plates, wherein the angle between said compression plates changes during the relative motion between said first and second compression plates;

an upright member supported by a base, said upper compression plate being operatively connected to an upper pivot assembly, which is in turn positioned on an upper portion of said upright member, said lower compression plate being operatively connected to a lower pivot assembly, which is in turn positioned on a lower portion of said upright member; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said upper and lower compression plates, said ultrasound probe being configured to translate over said one of said upper and lower compression plates.

69. (New) A breast imaging and display system comprising:

a central processing unit (CPU);

an imaging workstation in electrical communication with said CPU; and

an ultrasound breast imaging assembly operatively connected to, and in electrical communication with, said CPU, said ultrasound breast imaging assembly comprising:

an upper compression plate;

a lower compression plate, wherein the planes of said upper and lower compression plates are angled with respect to one another;

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a breast compression area defined between said upper and lower compression plates;

at least one pivot assembly allowing relative motion between said upper and lower compression plates while said planes of said upper and lower compression plates remain angled with respect to one another, said at least one pivot assembly being operatively connected to each of said upper and lower compression plates, wherein the angle between said compression plates changes during the relative motion between said first and second compression plates;

an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and upper and lower compression plates to said upright member, wherein said swivel member is configured to rotate said upper and lower compression plates through a plurality of imaging orientations; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said upper and lower compression plates, said ultrasound probe being configured to translate over said one of said upper and lower compression plates.

70. (New) An ultrasound breast imaging assembly comprising:

a first and second compression plates, said first and second compression plates being angled with respect to one another, one of said first and second compression plates comprising a sonolucent compression film, the other of said first and second compression plates comprising a sound absorbing stabilization plate;

a breast compression area defined between said first and second compression plates, wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said first and

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second compression plates remain angled with respect to one another during the compression;

at least one pivot assembly allowing relative motion over an arcuate path between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates, and wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, wherein said AMA comprises a plurality of rows having a plurality of ultrasound elements; and wherein said ultrasound probe is configured to translate over said one of said first and second compression plates.